DOCUMENT RESUME

ED 341 700 TM 017 844

AUTHOR Ima, Kenji; Labovitz, Eugene M.
TITLE Language Proficiency, Ethnicity and Standardized Test Performance of Elementary School Students.
PUB DATE 91
NOTE 22p.
PUB TYPE Reports - Research/Technical (143)

EDRS PRICE MF01/PC01 Plus Postage.
DESCRIPTORS Academic Achievement; Acculturation; Anglo Americans; Asian Americans; *Elementary School Students; *Ethnicity; Filipino Americans; Hispanic Americans; Intermediate Grades; *Language Proficiency; Language Tests; Mathematics Tests; Pacific Americans; *Performance; Reading Tests; *Standardized Tests; Test Results
IDENTIFIERS African Americans; *Comprehensive Tests of Basic Skills; Effort; Latinos; *San Diego Unified School District CA; Southeast Asians

ABSTRACT

The differential effects of language proficiency on standardized test performance of elementary school students (grades 4 through 6 are examined for the San Diego (California) Unified School District. Ethnicity is examined as a mediating variable circumscribing the relationship between language proficiency and test performance. Test performance is based on the Comprehensive Tests of Basic Skills scores in reading, language, and mathematics for approximately 21,000 students. Using a multiple regression model, the relative effects of language proficiency among the different racial and ethnic groups are analyzed. Ethnic groups considered are: (1) African Americans; (2) Asians; (3) Filipinos; (4) Hispanics; (5) Native-Americans (includes Alaskan Indians); (6) Pacific Islanders; (7) Southeast Asians; and (8) Whites. The results suggest that performance is strongly related to ethnicity. Reading is the area most sensitive to acculturation, while language is more likely to measure accomplishment based on memorization, and consequently effort. Mathematics is the area least dependent on English language competence. Student language status is identified as a critical factor in test performance. This study does not document the effects of traditional socioeconomic factors. Three tables and one flowchart present study data. A nine-item list of references is included. (SLD)

****
* Reproductions supplied by EDRS are the best that can be made *
* from the original document. *
****

ED341700

LANGUAGE PROFICIENCY, ETHNICITY AND STANDARDIZED TEST PERFORMANCE OF ELEMENTARY SCHOOL STUDENTS

Kenji Ima, San Diego State University
Eugene M. Labovitz, University of San Diego

TM017844

BEST COPY AVAILABLE

Language Proficiency, Ethnicity and Standardized Test Performance of Elementary School Students

Kenji Ima, San Diego State University
Eugene M. Labovitz, University of San Diego

One of the most controversial and salient issues in education is the standardized test performance of students. Scores on standardized test are lamented as new test results show a decline in performance. In a recent editorial in the *Washington Post* , Martha McAteer (1991) argues that "after a decade of school reform . . . academic performance of American school children shows no improvement whatsoever." Although she focused on the decline in verbal and math SAT scores, similar observations are made concerning other standardized tests of achievement. The question is not whether there have been declines but why. Bill Honig, California's Superintendent of Public Instruction, in a response to McAteer's editorial argues that the test results on the SAT are misleading and that there has been an actual improvement in performance but not in test scores! Nevertheless, scores are lower and several factors have been explored including such variables as ethnicity, socio-economic status, school context, neighborhood socio-economic status, gender and language proficiency. All of these variables result in differential standardized test scores. An important demographic change has not been the increase in the number of bilingual students, but more importantly their numbers taking standardized tests. We know that those students will lower the verbal portion of standardized tests but we know little about how they may affect those scores in conjunction with other factors such as ethnic and social class differences. After all, images of high performing Asian students are associated with the brain drain from Korea and Taiwan--resulting in the possibility of the effects of the combined factors of language minority status and social class. Thus, one of the key concerns from these analyses is how these variables impact performance individually and collectively.

In this paper the differential effects of language proficiency on standardized test performance of elementary students (grades 4 through 6) are examined in the San Diego Unified School District. Ethnicity is examined as a mediating variable circumscribing the relationship between language proficiency and test performance. In addition, school socio-economic status, neighborhood socio-economic status, gifted status, gender and family socio-economic status are used as control variables. Test performance is based on the Comprehensive Tests of Basic Skills (CTBS) scores in reading, language and mathematics. Reading measures are related most closely with the student's familiarity with both the English language and the culture associated

TM017844

with it as reflected in the vocabulary test. By contrast, the language test measures those aspects of language which are more easily learned by non-native speakers such as spelling and grammar. The math test is the least culture- and English language-dependent portion of the three CTBS scores.

The focus of this analysis is on the districtwide testing of grades 4 through 6 elementary school students (approximately 21,000). Using a multiple-regression model, the relative effects of language proficiency (facility with English) among different racial/ethnic groups are presented and analyzed. The paper focuses on the following questions:

What is the relationship between language proficiency and ethnicity?

What are the effects of language proficiency on standardized test performance?

How do background factors affect this relationship?

What are the effects of socio-economic factors on this relationship?

ETHNICITY, LANGAUGE PROFICIENCY AND SOCIO-ECONOMIC STATUS

Traditional sociological analyses and discussions of "minorities" have yet to capture recent demographic changes including their composition and the entrance of new and hitherto understudied groups such as Pacific Islanders (Levine and Havighurst, 1989). Though this issue of bringing students of color into the mainstream of education has been a long-standing concern, especially in policies of equity, and given the increasing proportions of minorities among the school-age population, coupled with an urgency to increase the quality of our labor force, we address these issues through an examination of factors associated with student performance. The study expands the data analysis beyond the traditional gross categories of racial/ethnic groups (such as Asian, e.g., see Farkas *et al.*, 1990) by a more refined categorization of ethnicity including African-Americans, Asians (including Chinese, Japanese and Korean), Hispanics, Native Americans, Pacific Islanders, Southeast Asians and whites. Most significantly, Asian and Pacific Islander students are divided into four categories rather the usual single one. We know the separation of those groups are crucial since the combined aggregates masks critical differences between those subgroupings. The refined categories will enable us to develop a clearer portrait of minority student test performances at the elementary school level.[1]

---

[1] An earlier paper focused on secondary school performance (see Ima and Labovitz, 1991).

Student diversity reflects the ever increasing heterogeneity of students resulting from increasing numbers and varieties of immigrant and refugee students -- in the San Diego Unified School District, these newcomers constitute about a third of the total student population. The performance of the newer students raise questions about the mechanisms which facilitate or hinder the progress of students of color. The newcomer students not only bring different histories and needs as minorities but also reveal different patterns of schooling successes and failures than long-standing students of color. Ogbu identified differences between "caste-like status" versus "immigrant status" groups as a major source which differentiates the performance of newer students of color versus those of older residency such as African Americans (Ogbu and Matute-Bianchi, 1986; Fordham and Ogbu, 1986). Caste-like groups are seen as bringing their history of subordination into schools which reinforces negative treatment and schooling outcomes. By contrast, immigrant groups, which may include those of African origin such as Jamaican immigrants, bring no such U.S.-based history of subordination and thus not the same barriers to succeeding in schools. Though Ogbu's bold thesis is probably overstated, it provides a major attempt to explain differences in schooling outcomes between newcomers and long standing American minorities. The current study is not fully equiped to address Ogbu's hypothesis but certainly our ability to identify more precisely test outcomes and associated factors will enable us to establish benchmarks which provide better grounds for the understanding of differential performances of students of color.

Confounding ethnicity is language proficiency especially among the non-English speaking groups. Though many assume a negative relation between language status and test scores (e.g., that non-English speakers will automatically be poor students), Ima and Rumbaut (1989) found a mixed portrait of non-English speaking and bilingual student performance, making it necessary to view that relationship between language background and school performance as contingent upon other factors.

Briefly, the paper presents a more precise portrait of students of color and their performances than is commonly reported. Additionally, the analysis includes the parameters of neighborhood socioeconomic status, school socioeconomic status, language facility, gender and family socioeconomic status. The resulting multivariate analysis enable us to assign relative importance of various factors affecting test performances. The study's exploratory emphasis is the examination of test performances of refined subgroupings to ascertain similarities or differences in student performance. Previous research suggests an interactional effect between

ethnicity and social class (Levine and Havighurst, 1989, Chp. 7). Certainly, we anticipate interaction between the various parameters and we will be able to sketch the relative weightings of selected predictive measures.

The model guiding data analysis is illustrated in Figure 1. The model assumes that

Figure 1 about here

individual factors and social contexts interact to influence educational behavior. Test performance is seen as a function of family background and individual school factors, and socioeconomic contexts -- in general, we anticipate a positive relation between SES factors and test scores, e.g., Sewell (1975). The family is a basis of the model and is influenced by its socioeconomic status, and cultural milieu based on language, race and ethnicity and the resulting gender roles. Residential segregation can be due to a combination of socioeconomic and racial/ethnic factors. Whether *de jure* or *de facto*, residential segregation is an ecological fact in urban society which sets the flavor of the neighborhood. The neighborhood context, in turn, influences the school context. Ultimately family, neighborhood and school contexts affect interpersonal relations in the school and student behavior (Campbell and Alexander, 1965).

The data analysis examines the role of social contexts (family, school and neighborhood) and individual attributes (motivation, ability, ethnicity, gender, language) and their affect on test scores. How important are each of these factors in influencing reading, language and mathematics test scores? Are there differences among racial/ethnic groups and males and females in test scores? What is the impact of language proficiency on test performance? We hope to answer these and aforementioned questions.

DATA

The data are based on the records of all students in attendance during the 1989-90 school year in the San Diego Unified School District (approximately 21,000 individuals) at grade levels 4-6. The district has experienced a rapid increase in the proportion of minority students from less than third of total student enrollment to approximately 60% in ten years. In 1989-90 there were 116,055 students enrolled in San Diego City Schools: 65,921 at the elementary school level, 16,811 in junior high schools, and 33,323 in senior high

school. Of the total, 46.2% were non-Hispanic whites, 20.4% were Hispanics (predominantly Chicanos and Mexican immigrants), 16% were African Americans, and 17.4% were classified as "Asian/Others" (a total of 20,194 students). Of this last group, about 40% were Southeast Asians, 40% Filipinos, and the remaining 20% included a wide range of other Asians (Chinese, Japanese, Korean) and Pacific Islanders. Asians and Pacific Islanders constituted the fastest growing segment of the student population, more than doubling in seven years from 8.5% of all students in 1982 to over 18.6% in 1989-90.

The present analysis focuses on approximately 45,000 elementary school students (grades 4-6) Information on students includes test scores on the Comprehensive Tests of Basic Skills (otherwise known as the CTBS which is divided into three content areas -- Reading, Language and Mathematics)[1], cumulative grade point average (weighted for advanced classes), race/ethnicity, language facility, gender, school socioeconomic rating, zip code of residence, language code (primary language at home), lunch code (qualification for free or reduced lunch), gifted code (designated as gifted), program code (magnet, VEEP or other program), handicap code and several other variables.

The percentile scores on the CTBS are the main dependent variables. Districtwide testing at the elementary level in the San Diego Unified School District occurs at grade 5. Selected schools receiving compensatory education funds or schools with special programs test at every grade level, however students from these schools form only a minor segment of these cohorts. Consequently, approximately half or 23,000 students have test scores at grades 4 - 6.. Our study is based on those students. The individual's lunch code is a measure of the student's family SES. Each school is measured on socioeconomic status based on the CAP (California Assessment Program) LEI score, which, at the secondary level, is measured by the collective

---

[2] The Comprehensive Tests of Basic Skills (CTBS) is a standardized measure which is widely used throughout the U.S. to gauge the educational achievement of students in grades K-12. The tests are intended for national use to measure systematically those skills that are prerequisite to studying and learning in school, classified under five broad skill areas: recognition, translation, interpretation, application, and analysis. The CTBS produces raw scores in 7 different areas or subtests: (1) Reading Vocabulary, (2) Reading Comprehension, (3) Language Expression, (4) Spelling, (5) Language Mechanics, (6) Mathematics Computation, and (7) Mathematics Concepts and Applications. These subtest scores, in turn, can be averaged to produce three composite indices of achievement, measuring (1) **Reading** (combining the Vocabulary and Comprehension subtests), (2) **Language** (combining Language Expression and Language Mechanics), and (3) **Mathematics** (combining computation and math concepts and applications). The results of these achievement tests provide data that may be compared nationally with other student groups at similar grade levels. In this article we report student scores in the three composite indices of reading, language and math.

7 BEST COPY AVAILABLE

educational attainment of parents of students in the school. Finally, one additional SES measure is the student's residential SES rating which is measured by the percent of high school graduates among adults living in the student's home census tract.

Other variables are directly taken from the San Diego School District data base. Ethnicity is an eight category classification which includes African-American, Asians, Filipinos, Hispanics, Native-Americans (includes Alaskan Indians), Pacific Islanders, Southeast Asians and whites. Language facility is measured by the student's command of English varying from Limited English Placement (LEP -- those whose home language is other than English and lacks sufficient English language skills to be in regular English speaking classes), to fluent English proficient (FEP -- those whose home language is other than English but have sufficient English language skills to be in regular English speaking classes), and finally to native English speaking.

In short, we have data on test performances and factors associated with those performances. All data were gathered from school files but not all critically relevant data were stored there. For example, though we have some SES data, we did not have easily available all relevant factors such as the length of residency in the United States. Thus, this study is limited by the availability of information found in school district files. In spite of this limitation, we have access to all students of one of the largest school districts in the United States and thereby will be able to establish statistically stable and significant benchmarks for future assessment of minority student progress based on language proficiency.

FINDINGS

Table 1 presents the mean CTBS scores of each ethnic group.[2] The CTBS rank orders vary depending on the CTBS component. It is evident that test performance is strongly related to ethnicity. On math scores, the groups form two clusters -- those with higher scores including Asians, Southeast Asians, Filipinos and

---

[3] Of the ethnic groups, we have difficulty interpreting the scores for Native Americans given their small numbers, erratic patterns and hearsay which suggests that many individuals who classify themselves as Native Americans would not be so classified by the Bureau of Indian Affairs or other official agencies representing Native Americans. Since ethnic classification is one of self identification and given the relatively small numbers of those who claim Native American status, the scores are probably non-interpretable. Additionally, some who claim Native American status are reputed to be individuals taking advantage of special programs requiring an ethnic classification. Therefore for this analysis, we will ignore those identified as Native Americans.

whites versus those with lower scores including Pacific Islanders, Latinos and African Americans. This pattern reinforces the stereotype of Asian as "over achievers" whereby all Asian

Table 1 about here

groups, excluding Pacific Islanders, have higher mean scores than the average and all three (Asians, Southeast Asians and Filipinos) exceeding white student scores. The rank order among this group is Asians, Filipino and then Southeast Asians. Among those in the lower groups, all fit Ogbu's (1986) characterization of caste-like groups including Pacific Islanders who have had history as colonized indigenous peoples. Among the lower cluster, the rank order is first Pacific Islander, next Latino and last African American -- probably reflecting historical experiences of increasing levels of subordination.

The language scores reflect the same pattern as found for the math scores (showing a bimodal distribution) with the exception of Southeast Asians who have scores approximating the lower scoring cluster. Finally, the reading scores reveals a dramatically changed patterns showing a decline of percentile scores of all Asian groups with the most dramatic change among the Southeast Asian student who have the lowest mean score among all groups. As we shall see in the multivariate analyses found below, we are observing the affects of language status on Asian students, creating a portrait of increasing complexity in interpreting performances of minority students, including the effects of home schooling background.

Table 2 presents an intercorrelation matrix between the variables of our regression model. These data indicate a strong relationship among the SES variables (family, residential and school), test scores and individual characteristics. The three socioeconomic measures are highly interrelated and in turn two (residential SES and family SES) are highly correlated with the CTBS scores. The three CTBS scores are highly related to each other. Language status (labeled "level) is strongly related to residential SES and

Table 2 about here

family SES but less so with school site SES. It appears that school site SES is less powerful a factor than residential and family measures. Language status is systematically correlated to the CTBS scores but in the order of increasing correlation -- from math, to language and finally most strongly to reading. Gender is not related to the various SES measures but is systematically related to CTBS scores -- with females doing better than males.

The overall multiple correlation coefficient is 0.61 between the model parameters and the reading score. The comparable multiple correlation coefficient is lower for language (0.55) and lowest for math (0.49) indicating that math is the least likely to be predicted by the select parameters and that reading is the most likely to be predicted. In other words, reading scores are more clearly predictable.

The multiple regression analyses, using beta weights, describe the independent contributions of each variable to the three CTBS scores. These are displayed in Table 3. Beyond the overall high multiple correlation coefficients, there are systematic differences between ethnic groups. Gifted status has the

Table 3 about here

highest beta weights among whites, Filipinos and Asians while being substantially lower for other groups; this is true especially regarding reading.

In examining the R^2 reading scores by ethnic group, we observe considerable variation in the efficacy of our regression model. For African Americans, R^2 for reading equals .201 and for Southeast Asians the reading R^2 equals .391. This difference is also observed for language scores, but with smaller differences. However, on math scores, not only is the overall R^2 strikingly smaller (overall reading R^2 = .376 versus overall math R^2 =.240), but also all ethnic groups have R^2 scores of closer order of magnitude. Overall, all groups have more explained variance than African Americans on reading and language areas. This reinforces the Ogbu argument about differentiating between caste-like and immigrant groups, but the last observation suggests the need to differentiate African Americans as a special group all by itself. We can only speculate on the mechanisms which account for the differences in explained variance but it seems clear that the performance of African Americans is probably the most complex and extreme of all groups. Nevertheless, the difference between the verbal areas are more discriminating than math measures which raise questions about relative

weights which teachers may assign to test areas (favoring verbal ones at the elementary level, but by contrast, favoring the math area at the secondary level), suggesting that the assessment of at-risk students needs to concentrate more on verbal than math scores at the elementary level. What does this relative weighting imply about testing, curriculum emphasis and intervention measures among at-risk of failure students? We will come back to these questions later.

Not only does the amount of explained variance vary between groups, the strength of individual predictive variables varies. Language status, for example, among African Americans is a relatively weak factor while it is very important for other racial/ethnic groups (especially Latinos, Southeast Asians and Asian Americans). Indeed, language status emerges as one of the most powerful predictors of test scores, reflecting it relevance not only for Latinos but for other ethnic groups having large proportions of newcomers -- Filipinos, Southeast Asians, Pacific Islanders and Asians. Whereas traditional analysis of test scores rarely addressed the native language of students, our analysis not only identifies students whose families speak a language other than English (approximately a third of the district's student population) but we are also able to estimate the affects of English language proficiency on test scores.

Reading, the area most likely influenced by the student's language status, strongly affects Filipinos, Latinos and Southeast Asians -- the three groups with the highest proportions of newcomers. By contrast, the effects of language status on math scores varies by ethnic groups. Among Southeast Asians and Latinos, thought there is a diminishment of the effects of language status on math scores, it remains a significant predictor. By contrast, language status is dramatically less likely to affect math test scores among Asians and Filipinos.. Why is there such a difference? Though the data does not directly reveal the reason or reasons for the differential affect of language status, interviews with students suggest the importance of home country schooling. Among Asians who are likely to be immigrants, they are not only likely to have intact schooling but the quality of home country schooling is likely to be of high quality, especially in mathematics. Koreans, for example, are more likely to have intact and high quality schooling than Southeast Asian refugee students, e.g., some Cambodians enter U.S. schools with few years of formal schooling. Many Asian immigrant students (e.g., from Hong Kong) comment about the "easy" quality of U.S. math courses. By contrast,

Southeast Asians and Pacific Islanders are not only likely to have limited schooling but also to have low quality schooling.

These observations also point out the pattern of variations in the three content areas -- reading, language and math. Reading measures not only familiarity with the English language but also a cultural understanding. Therefore, of the three areas, it is most sensitive to acculturation. Language, though a measure of cultural understanding, is more likely to measure accomplishment based on memorization, and thus more likely to reflect effort. The last area, math, measures the ability to compute and solve word problems. Though it is partially linked to English language competence, it is the area least dependent upon acculturation. Perhaps, for African Americans, though they are classified as native English speakers, the reading scores may be measuring dialect differences, which in affect means that school-based English may indeed be a second language for many African Americans. Thus they may experience both a language and a racial barrier. For many Asian students who have had a background in mathematics, their understanding of mathematics enable them to do well in spite of their relative incompetence in the English language. Many immigrant students can guess the meaning of English words by the mathematic context of the printed page.

We were limited by the SES measures available on the school records. On one of the data files were we able to find information which directly measured the student's family SES such as father's occupation or income. The lunch code, though reflecting family income, is a crude measure with only three categories (full, partial and no free lunch); additionally, it is a code which has to be requested by the student's family. As students move up the grade ladder, they are less likely to apply for full or partial lunch subsidy. The other two SES measures are also crude since they measure the social context of the students neighborhood and school. Census tracts are rather large units of measurement and subject to the criticism of being gross measures. Even given the relative crudeness of these SES measures, their significant levels of interrelations indicate that they are relevant. The affects of the three SES factors though weaker than gifted status, are consistently more powerful predictors than language status. As observed in Table 2 on intercorrelations, residential and family SES are more predictive than school SES. This pattern is reflected in the various beta weights of Table 3. Both the lunch code (family SES measure) and percent high school grad (residential SES measure) are more robust than LEI (school site SES).

Language status among African Americans is a relatively weak factor while it is very important for other racial/ethnic groups (especially Southeast Asians and Asian Americans). Indeed, language status emerges as one of the most powerful predictors of test scores, reflecting its relevance not only for Latinos but for other ethnic groups having large proportions of newcomers -- Filipinos, Southeast Asians, Pacific Islanders and Asians. Among Asians, the language status beta weight (0.374) exceeds the gifted beta weight (0.332) of the reading analysis; this is quite striking since gifted is consistently the most powerful predictor of all measured factors.

Whereas traditional analyses of test scores rarely address the home language of students, our analysis not only identifies students whose families speak a language other than English (approximately a third of the district's student population) but we are also able to estimate the affects of home language on test scores. Reading, the area most likely influenced by the student's language status, most strongly affects Southeast Asians and Asians, the two groups with the highest proportions of newcomers. By contrast, the affects of language status on math scores varies by ethnic groups. Among Pacific Islanders, there is little diminishment of the effects of language status, however among Asians language status is dramatically less likely to affect test outcomes. Among Southeast Asians and Latinos, the effects of language status, though persistent, has diminished effects on test scores. Why the difference between Asians and other groups with high proportions of limited English proficient students? Though the data does not directly reveal the reason or reasons for the differential affect of language status, interviews with students suggest the importance of home country schooling. As mentioned above, among Asians who are likely to be immigrants, they are not only likely to have intact schooling but the quality of home country schooling is likely to be of high quality, especially in mathematics. By contrast, Southeast Asians and Pacific Islanders are not only likely to have limited schooling but also to have lower quality home country schooling.

These observations also point out the pattern of variations in the three content areas -- reading, language and math. Reading measures not only familiarity with the English language but also cultural understanding. Therefore, of the three test areas, it is most sensitive to acculturation. Language, though a measure of cultural understanding, is more likely to measure accomplishment based on memorization (tasks such as spelling), and thus more likely to reflect effort. The last area, math, measures the ability to compute

and solve word problems. Though it is linked to English language competence, it is the area least dependent upon acculturation.

Perhaps, for African Americans, who score lower in both reading and math, though they are classified as native English speakers, their lower reading scores may be measuring dialect differences, which in affect means that school-based English may indeed be a second language for many African Americans. Thus they may experience both a language and a racial barrier to schooling achievement.

For many Asian students who have had a quality background in mathematics, their understanding of mathematics enable them to do well in spite of their relative incompetence in the English language. Many immigrant students can guess the meaning of English words by the mathematic context of the printed page. For all ethnic groups, grade point averages are least predictive of reading scores, next most predictive of language scores and most predictive of math scores.

CONCLUSIONS

This exploratory study of differential performance of various ethnic groups at the elementary level gives us a timely portrait of a changing minority population. Even though we were able to use a refined ethnic code, especially notable for separately identifying different Asian groups, the differences in group results suggests that even further breakdown analysis would be fruitful. But even beyond the issue of ethnically refined categories, it became even more apparent that further studies which measure the increasing heterogeneity of students are necessary to ferret out patterns of minority performance. Ima and Rumbaut's study of Southeast Asian (1989) provides such an example (which measured such parameters as parent socioeconomic background, pre-migration history, history of migration, experiences after arrival in the U.S. and numerous other social and psychological variables) and as a result was able to identify factors which explained differences in schooling success among Southeast Asians (including a hitherto ignored factor of the mother's mental health). Thinking further about refined ethnic categories, it became clear that the traditional category of Hispanic or Latino masks diversity such as language status, generational status, social class and country of origin. In our observations of the differences between Latino and Southeast Asian students, we ascertained that the former contain more U.S. born individuals which accounted for differences in their reading scores. Thus in spite of not having a full complement of

relevant measured variables, the results raised questions suggesting that future studies include more detailed information about the life circumstances of students.

The different beta weightings of each ethnic group reveals a portrait not only of differences in explained variance but also of different factors which affect student performance. This clearly documents the assumption of heterogeneity of schooling outcomes among minority groups but also the different mechanisms associated with schooling success for the different groups. This study most prominently identifies student language status as a critical factor reflecting the growth of student newcomers in our schools. It also raises questions about the differential treatment and successes of the various groups of color. What this study does not document is the strength of traditional SES factors (family, school and residential area), in all likelihood because of the measurement of SES factors, their distal character and the "messiness" of how they manifest themselves in proximal factors.

References

Campbell, E. and C. Alexander
1965 "Structural Effects and Interpersonal Relations." *American Journal of Sociology,* 71, 284-289.

Entwisle, D. and K. Alexander
1988 "Factors Affecting Achievement Test Scores and Marks of Black and White First Graders." *Elementary School Journal,* 88, 449-471.

Ima, K. and E. Labovitz
1991 "Changing Ethnic/Racial Student Composition and Test Performance: Taking Account of Increasing Student Diversity." A paper presented at the meetings of the Pacific Sociological Association, April.11-15.

Ima, K. and R. Rumbaut.
1989 "Southeast Asian refugees in American schools: A comparison between limited English proficient (LEP) and fluent English proficient (FEP) students." *Topics in Language Disorders Journal,* 9, 54-75.

Labovitz, E.
1975 "Race, SES Contexts and Fulfillment of College Aspirations." *The Sociological Quarterly,* 16, 241:249.

Levine, D. and R. Havighurst.
1989 *Society and Education* (7th ed.). Boston: Allyn and Bacon.

McAteer, M.
1991 "Testing School Reform." *The Washington Post* (September 2-8) Weekly Edition.

Ogbu, J. and M. Matute-Bianchi
1986 Understanding sociocultural factors: Knowledge, identity, and school adjustment. In *Beyond Language: Social and Cultural Factors in Schooling Language Minority Students.* Lost Angeles: Evaluation, Dissemination and Assessment Center, California State University at Los Angeles.

Rumbaut, R. and K. Ima.
1988 *The Adaptation of Southeast Asian Refugee Youth: A Comparative Study.* Final report and Memorandum of recommendations submitted to the Office of Refugee Resettlement, Department of Health and Human Services. San Diego State University, San Diego.

Figure 1

Path Diagram for Test Score Attainment Process

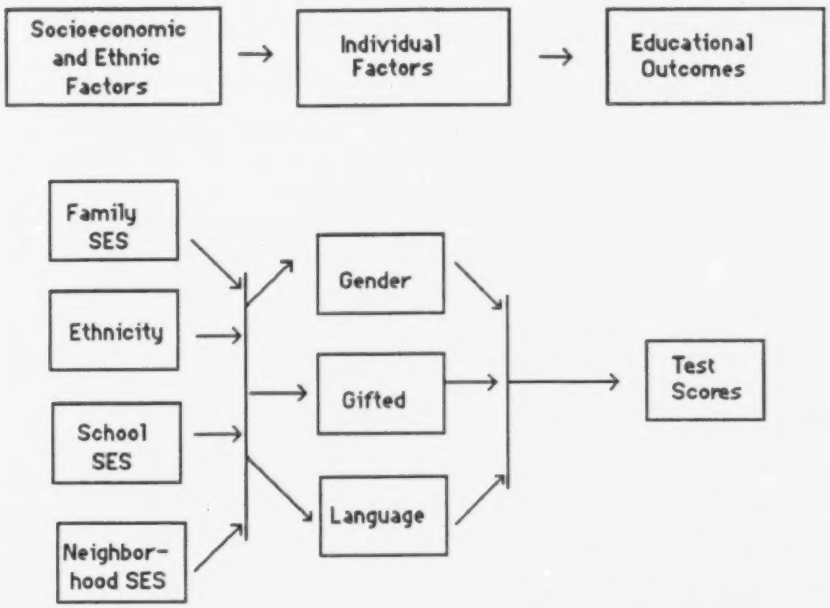

Table 1

Mean CTBS Percentile Scores by Content Area, Racial/Ethnic Group and Gender, Grades 4 - 6, San Diego Unified School District, 1989-1990*

Reading

Ethnic Group/Gender	African Am.	Latinos	Pacific Is.	Anglo	Filipino	SEA	Asian Am.	Total
Male	41.0	40.7	44.4	63.6	56.5	41.8	63.2	52.6
Female	45.1	41.9	46.9	66.4	60.4	44.9	63.8	55.4
Total	43.1	41.3	45.5	65.0	58.4	43.4	63.5	54.0
N	3946	4534	184	9279	2122	1273	472	21933

Language

Ethnic Group/Gender	African Am.	Latinos	Pacific Is.	Anglo	Filipino	SEA	Asian Am.	Total
Male	40.6	44.2	48.8	62.3	62.4	50.4	65.7	61.1
Female	49.5	50.1	57.9	69.1	69.9	59.1	72.2	53.9
Total	45.1	47.0	52.8	65.7	66.1	54.8	69.1	57.4
N	3938	4516	182	9242	2121	1267	473	21861

Mathematics

Ethnic Group/Gender	African Am.	Latinos	Pacific Is.	Anglo	Filipino	SEA	Asian Am.	Total
Male	48.3	52.0	55.9	69.7	70.5	71.2	81.0	64.7
Female	50.3	54.7	58.5	71.5	75.2	73.0	78.8	62.0
Total	48.3	53.3	57.0	70.6	72.8	72.2	79.8	63.4
N	3931	4528	182	9267	2121	1269	472	21894

*Source: San Diego Unified School District, Information Services Department

Table 2

Correlation Matrix
CTBS Percentile Scores by Content Area, SES Contexts, Gifted Status, Lunch Code and Language
Grades 4 - 6, San Diego Unified School District, 1989-1990*

Variables	Level	Gifted	Lunch	LEI	HS Grad	Read	Lang	Math
Level	-	.169	.421	.338	.397	.331	.232	.112
Gifted	-	-	.241	.166	.184	.476	.434	.400
Lunch	-	-	-	.397	.458	.402	.347	.308
LEI	-	-	-	-	.539	.274	.249	.237
HS Grad	-	-	-	-	-	.364	.312	.286
Read	-	-	-	-	-	-	.806	.703
Lang	-	-	-	-	-	-	-	.779
Math	-	-	-	-	-	-	-	-

*All probabilities are less than .0001.

Level - Language Code - English Only to Limited English Proficiency
Gifted - Gifted Code - Dummy Variable - Designated Gifted
Lunch - Lunch Code - Dummy Variable - Designated Eligible for free or reduced lunch
LEI - Socioeconomic Status Code - Percent Professional
HS Grad - Neighborhood Socioeconomic Status Code - Percent High School Graduates in tract
Read - Score on Comprehensive Test of Basic Skills on Total Reading
Lang - Score on Comprehensive Test of Basic Skills on Total Language
Math - Score on Comprehensive Test of Basic Skills on Total Mathematics

Table 3
Beta Coefficients
CTBS Percentile Scores by Content Area, Racial/Ethnic Groups, SES Contexts, Language, Gender and Gifted Status
Grades 4 - 6, San Diego Unified School District, 1989-1990

Reading

Variable	African Am.	Latinos	Pacific Is.	Anglo	Filipino	SEA	Asian Am.	TOTAL
Gender	-.083***	-.033**	-.019	-.063***	-.070***	-.048**	-.076*	-.055***
Gifted	.366***	.323***	.345***	.449***	.409***	.332***	.447***	.387***
Grade	-.010	-.053***	.094	-.038***	-.088***	-.105***	-.036	-.042***
HS Grad	.049***	.067***	.062	.080***	-.017	.070**	.135**	.135***
LEI	.042**	.086***	.006	.030**	.032	.064*	.062	.051***
Level	.007	.301***	.187**	.077***	.142***	.374***	.211***	.157***
Lunch	.180***	.096***	.323***	.153***	.111***	.072**	.072	.188***
R Square	.201***	.329***	.312***	.287***	.235***	.391***	.383***	.376***
N	3856	4336	179	8916	2094	1264	455	21206

Language

Variable	African Am.	Latinos	Pacific Is.	Anglo	Filipino	SEA	Asian Am.	TOTAL
Gender	-.177***	-.127***	-.180**	-.146***	-.159***	-.152***	-.186***	-.140***
Gifted	.334***	.297***	.277***	.413***	.349***	.264***	.377***	.358***
Grade	.030*	.004	-.038	.008	-.014	-.024	-.015	.006
HS Grad	.032*	.013	-.056	.087***	-.034	.049	.139**	.123***
LEI	.067***	.090***	.053	.028**	.036	.049	.056	.055***
Level	-.005	.256***	.224**	.028**	.106***	.338***	.053	.073***
Lunch	.148***	.090***	.236**	.146***	.102***	.002	.076	.174***
R Square	.202***	.254***	.230***	.261***	.190***	.309***	.261***	.302***

Mathematics

Variable	African Am.	Latinos	Pacific Is.	Anglo	Filipino	SEA	Asian Am.	TOTAL
Gender	-.066***	-.056***	-.028	-.039***	-.087***	-.015	.008	-.048***
Gifted	.317***	.287***	.219**	.381***	.330***	.226***	.305***	.335***
Grade	.080***	.041**	.035	.089***	.077***	.027	.069	.068***
HS Grad	.040*	.016	.041	.092***	-.046	.056	.120**	.143***
LEI	.060***	.091***	.111	.038***	.059*	.096**	.135**	.058***
Level	-.020	.132***	.089	-.012	.038	.241***	-.090*	-.047***
Lunch	.141***	.076***	.203**	0.15***	.113***	-.016	.128**	.166***
R Square	.166***	.159***	0.158***	.230***	.157***	.167***	.223***	.240***

* P < .05
** P < .01
*** P < .001